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February 18, 2003

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**  
**BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES**

Hon. Commissioner for Patents  
Washington, DC 20231

Sir:

Re: Application of DAVID R. FENN et al.  
Serial No.: 09/868,801  
Filed: May 9, 2000  
For: COATING COMPOSITION

PATENT APPLICATION

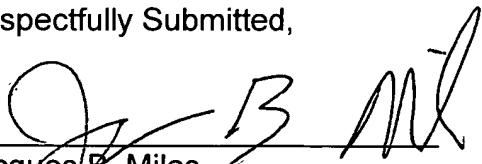
Group Art Unit 1711

Examiner: Rabon A. Sergent

Transmitted herewith for filing are the original and two copies of an Appeal Brief in the above-identified application.

The Commissioner is hereby authorized to charge the fee of THREE HUNDRED AND TWENTY DOLLARS (\$320.00) to Deposit Account No. 16-2025. Please charge any additional fees or credit overpayment to Deposit Account No. 16-2025. Two additional copies of this sheet are enclosed.

Respectfully Submitted,

  
\_\_\_\_\_  
Jacques B. Miles  
Registration No. 42,888  
Attorney of Record

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Assistant Commissioner for Patents, Washington, D.C. 20231

On February 18, 2003

  
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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE  
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

In re Application of:

DAVID R. FENN

Serial No.: 09/868,801

Filed: June 21, 2001

For: COATING COMPOSITION

PATENT APPLICATION

Group Art Unit: 1711

Examiner: Rabon A. Sergent

Case No.: OC-529

#121 Appeal  
Brief  
3/13  
[Signature]

BRIEF ON APPEAL

Hon. Commissioner of Patents and Trademarks  
Washington, DC 20231

Sir:

Appellants file this Appeal Brief, in triplicate, with the Board of Appeals and Interferences from a Final Office Action mailed on September 16, 2002, in which the Examiner finally rejected claims 1, 2, 4, and 6-11 in the above-identified application. The Appeal Brief supports a Notice of Appeal filed by certified mail on December 12, 2002. As required by 37 CFR § 1.192, the Appeal Brief is being filed in triplicate within the allotted time period. Please charge the requisite filing fee of THREE HUNDRED TWENTY DOLLARS (\$320.00) to Deposit Account No.16-2025.

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Assistant Commissioner for Patents, Washington, D.C. 20231

On February 18, 2003

Maria Edwards  
Signature

Maria Edwards

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### REAL PARTY IN INTEREST

The real party in interest is PPG Industries Ohio, Inc., a corporation of the state of Delaware. The inventors assigned their rights to the present invention to PPG Industries Ohio, Inc. in an Assignment Document mailed on June 21, 2001 which is duly recorded at the United States Patent and Trademark Office at Reel/Frame: 011190/00390.

### RELATED APPEALS AND INTERFERENCES

The Appellants and the Appellants' legal representative are not aware of any related appeals or interferences.

### STATUS OF THE CLAIMS

Claims 1, 2, 4, and 6-11 are pending. Claims 1, 2, 4, and 6-11 are under Final Rejection. The Final Rejection is being appealed. The pending claims are attached hereto as Appendix A.

### STATUS OF AMENDMENTS

The Applicants mailed an Amendment on January 16, 2002 and a Supplemental Amendment on June 7, 2002. Both the Amendment and the Supplemental Amendment were entered by the Examiner and considered prior to the Final Office Action mailed on September 16, 2002.

### SUMMARY OF THE INVENTION

The present invention is directed to a liquid coating composition consisting essentially of:

- i) diphenylmethane diisocyanate; and
- ii) a hydroxyl functional compound which is a

polyester having secondary hydroxyl groups, the secondary hydroxyl groups being the product of a reaction between a carboxylic acid group and an epoxide group comprising a glycidyl ester of C11-C20 alkanolic acid, the composition contains no reactive diluent which are aldimines, ketimines, or aspartic esters.

### THE ISSUES

The issues on appeal are as follows: (1) are claims 1, 2, 4, and 6-11 indefinite; (2) are claims 1, 2, 4, and 6-11 anticipated by WO 97/30099 or NL 9201868; and are claims 1, 2, 4, and 6-11 obvious over US Patent Number 4,379,906, WO 96/20968, or US Patent Number 4,322,508 each in view of WO 97/30099?

### GROUPING OF CLAIMS

All of the claims on appeal stand or fall together.

### ARGUMENT

#### A. CLAIMS 1, 2, 4, AND 6-11 ARE NOT INDEFINITE

A decision as to claim indefiniteness requires a determination whether those skilled in the art would understand what is claimed. See Amgen Inc. v. Chugai Pharmaceutical Co. Ltd., 927 F.2d 1200, 1217, 18 U.S.P.Q.2d 1016, 1030 (Fed. Cir. 1991)

In this case, the Examiner stated that claims 1, 2, 4, and 6-11 are indefinite because the Applicants specified that the coating composition is a liquid but have not specified conditions at which the composition is liquid. The Examiner also stated that it is unclear how to interpret claim 10 in light of the requirement that the composition be liquid and the optional requirement that the hydroxyl functional compound be dissolved in a solvent.

For whatever reason, the Examiner has missed the crux of the invention. The whole purpose of the present invention is to disclose and claim a novel, liquid polyurethane coating composition that will not become a solid or semi-solid shortly after formation. When conventional polyurethane coating compositions are formed, they immediately begin to get more viscous and eventually become a solid or semi-solid. See the present application at page 1, lines 15-17 to page 2, lines 1-4.

The specification of the present application including the Examples clearly show those of ordinary skill in the art how to make and use the liquid composition of the present invention. No further description is necessary.

Because the benefits of the present invention are only applicable to liquid compositions and there is sufficient disclosure in the specification so that those of ordinary skill in the art can make and use the liquid compositions of the present invention, the Examiner's rejection of claims 1, 2, 4, 6-11 should be withdrawn. The Applicants are willing to delete the "optionally dissolved in organic solvent" language in claim 10 if necessary to clarify the present invention.

B. CLAIMS 1, 2, 4 AND 6-11 ARE NOT ANTICIPATED BY WO 97/30099 OR NL 9201868

A rejection under 35 U.S.C. § 102(b) is proper when one reference teaches each and every element of the present invention. See Hybritech Inc. v. Monoclonal Antibodies, Inc., 802 F.2d 1367, 1379, 231 U.S.P.Q. 81, 90 (Fed. Cir. 1986). In this case, the Examiner stated that WO 97/30099 anticipates claims 1, 2, 4, and 6-11 of the present invention because it discloses diphenylmethane diisocyanate reacted with a polyester corresponding to the instantly claimed polyester.

One of the stated goals of the invention disclosed in WO 97/30099 is to form a high solids polyurethane coating composition having an acceptable viscosity. See page 2, lines 1-2 and page 3, lines 1-5 of WO 97/30099. To obtain a coating composition having an acceptable viscosity, WO 97/30099 teaches adding a reactive diluent having amine groups or blocked amine groups to the diphenylmethane diisocyanate and polyester. The reactive diluent reduces the viscosity of the composition. See page 2,

lines 29-30 of WO 97/30099. But for the reactive diluent, the composition disclosed in WO 97/30099 would not be suitable for its stated purpose.

The coating composition of the present invention as claimed is limited to the following "performance affecting" components: diphenylmethane diisocyanate and a hydroxyl functional compound which is a polyester having secondary hydroxyl groups, the secondary hydroxyl groups being the product of a reaction between a carboxylic acid group and an epoxide group comprising a glycidyl ester of C<sub>11</sub>-C<sub>20</sub> alkanolic acid. Because the claims in the present application contain the transition language "consisting essentially of", the present invention cannot include any components, other than the two mentioned above, that materially affect the basic properties of the invention. See Ex parte Davis, 80 U.S.P.Q. (BNA) 48, 449-450 (Pat. Off. Bd. App. 1948). Also, it is expressly stated in the claims that the composition contains no reactive diluent which are aldimines, ketimines, or aspartic esters.

A reactive diluent would materially affect a basic property of the liquid coating composition of the present invention- the viscosity- so coating compositions according to the present invention cannot include a reactive diluent. The fact that viscosity is a basic property of the invention is evidenced by the problem the invention is seeking to address- the unacceptably high viscosity of high solid polyurethane coating compositions. See the present application at page 2, lines 1-2.

Because the present invention discloses and claims a polyurethane coating composition having an acceptable viscosity without a reactive diluent, the present invention is not anticipated by WO 97/30099. Consequently, the rejection of claims 1, 2, 4, and 6-11 as being anticipated by WO 97/30099 should be withdrawn. The Applicants are willing to amend claim 10 so it contains the "no reactive diluent" language found in the other claims, if necessary.

In the Final Office Action, the Examiner also stated that claims 1, 2, 4, and 6-11 of the present invention are anticipated by NL 9201868. The invention of NL 9201868 is directed to powder coatings. Nevertheless, the Examiner took the position that in the

absence of a temperature condition for the instantly claimed liquid composition, the liquid requirement is met when NL 9201868 is heated and melted.

Life would be a lot easier for scientists in the coatings area if equivalent liquid and powder coating compositions could be formed by melting a powder coating composition or cooling a liquid composition. Those of ordinary skill in the art know that a reference that teaches and discloses a powder coating composition is not pertinent to an invention directed to a liquid composition.

Because NL 9201868 expressly teaches and discloses a powder composition, the reference should not have been cited as prior art for the present application directed toward a liquid coating composition. Consequently, the rejection of claims 1, 2, 4, and 6-11 as anticipated by NL 9201868 is improper and should be withdrawn.

C. CLAIMS 1,2, 4, AND 6-11 ARE NOT OBVIOUS OVER US PATENT NUMBER 4,379,906, WO 96/20968, OR US PATENT NUMBER 4,32,508 EACH IN VIEW OF WO 97/30099

To establish a prima facie case of obviousness, the United States Patent and Trademark Office must satisfy three requirements. First, the prior art relied upon, coupled with the knowledge generally available in the art at the time of the invention, must contain some suggestion or incentive that would have motivated the skilled artisan to modify a reference or to combine references. See In re Fine, 837 F.2d 1071, 1074, 5 U.S.P.Q.2d 1596, 1598 (Fed. Cir. 1988). Second, the proposed modification of the prior art must have had a reasonable expectation of success, determined from the vantage point of the skilled artisan at the time the invention was made. See Amgen, Inc. v. Chugai Pharm. Co. 927 F.2d 1200, 1209, 18 U.S.P.Q.2d 1016, 1023 (Fed. Cir. 1991). Third, the prior art reference or combination of references must be teach or suggest all the limitations of the claims. See In re Wilson, 424 F.2d 1382, 1385, 165 U.S.P.Q. 494, 496 (C.C.P.A 1970). Further, it is impermissible within the framework of section 103 to

pick and choose from any one reference only so much of it as will support a given position to the exclusion of other parts necessary to the full appreciation of what such reference fairly suggests to one of ordinary skill in the art. In re Wesslau, 353 F.2d 238, 241, 147 U.S.P.Q. 391, 393 (C.C.P.A. 1965).

In this case, the three requirements have not been met. Although the Applicants do not believe that the first two requirements have been met, the focus of the argument is on the third requirement.

In the Office Action, the Examiner stated that the primary references were silent regarding the use of Applicant's claimed glycidyl ester of C11-C20 alkanolic acids as the epoxide. However, the Examiner stated that the use of such epoxides to produce secondary group containing polyesters for use within isocyanate cured coating compositions is taught by WO 97/30099.

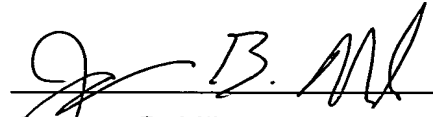
When one takes full appreciation of what WO 97/30099 fairly suggests to one of ordinary skill in the art, it is clear that WO 97/30099, as discussed above, teaches a reactive diluent having amine groups or blocked amine groups must be added to diphenylmethane diisocyanate and polyester to obtain a coating composition having an acceptable viscosity. Because any composition that contains a reactive diluent- a component which would materially affect a basic property of the present invention- lies outside of the present invention, the suggested combination would not result in the present invention. Therefore, the rejection of claims 1, 2, 4, and 6-11 as being obvious over US Patent Number 4,379,906, US Patent Number 4,322,508, or WO 96/20968 each in view of WO 97/30099 should be withdrawn.

#### SUMMARY

Because this Appeal Brief sets forth factual and legal bases that support the patentability of the claims on appeal, it is respectfully submitted that claims 1, 2, 4, and 6-11 are in condition for allowance. Accordingly, it is respectfully urged that the Board of Patent Appeals and Interferences reverse the Examiner's rejection of the claims 1, 2, 4, and 6-11.



Respectfully Submitted,



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## **APPENDIX**

### **CLAIMS ON APPEAL**

1. A liquid coating composition consisting essentially of:
  - i) diphenylmethane diisocyanate; and
  - ii) a hydroxyl functional compound which is a polyester having secondary hydroxyl groups, the secondary hydroxyl groups being the product of a reaction between a carboxylic acid group and an epoxide group comprising a glycidyl ester of a C11-C20 alkanolic acid, the composition contains no reactive diluent which are aldimines, ketimines, or aspartic esters.
2. A liquid composition as claimed in Claim 1 in which the ratio of the isocyanate groups on the diphenylmethane diisocyanate to the total number of hydroxyl groups on the hydroxyl functional compound is 0.7:1 to 3:1.
4. A composition as claimed in claim 1 in which the hydroxyl functional compound is the reaction product of a polyfunctional carboxylic acid and a monoepoxide.
6. A composition as claimed in claim 4 in which the polyfunctional carboxylic acid is a polyester with two or more carboxylic acid groups.
7. A composition as claimed in claim 4 in which the polyfunctional carboxylic acid is the reaction product of a polyol and an anhydride.
8. A composition as claimed in Claim 7 in which the polyol has from 2 to 4 hydroxyl groups.
9. A composition as claimed in claim 1 further comprising at least one pigment.

10. A process for preparing a liquid coating composition comprising the steps of mixing:

- i) diphenylmethane diisocyanate, and
- ii) a hydroxyl functional compound which is a polyester having secondary hydroxyl groups, the secondary hydroxyl groups being the product of a reaction between a carboxylic acid group and an epoxide group comprising a glycidyl ester of a C11-C20 alkanolic acid, optionally dissolved in organic solvent.

11. A process for coating a substrate which comprises the steps of: applying a layer of a liquid coating composition consisting essentially of:

- i) diphenylmethane diisocyanate; and
- ii) a hydroxyl functional compound which is a polyester having secondary hydroxyl groups, the secondary hydroxyl groups being the product of a reaction between a carboxylic acid group and an epoxide group comprising a glycidyl ester of a C11-C20 alkanolic acid, the composition contains no reactive diluent which are aldimines, ketimines, or aspartic esters to a surface of the substrate; and thereafter curing the layer of coating composition.